

ART. XVI.—*A New Ammonite from the Cretaceous
Rocks of Queensland.*

BY PROFESSOR J. W. GREGORY AND F. VOSS SMITH.

[Read 9th October, 1902.]

(With Plate XXII.).

The Ammonite described in this paper was found by one of us in the Bourke Museum at Beechworth, where it was labelled simply from the "Mitchell River." It was associated with specimens from Gippsland, and under the impression that the Victorian Mitchell River was intended, the specimen was borrowed by kind permission of the Trustees of the Beechworth Museum.

The sutures were carefully developed by Mr. H. J. Grayson, and its approximate geological position was thus determinable. Its affinities were clearly cretaceous, but no rocks of cretaceous age were known from Victoria.

It was subsequently suggested by Mr. T. S. Hall that the specimen probably came from the Mitchell River of Queensland. It agrees fairly well in its matrix with specimens which we have seen from that area; and there can be little doubt that its locality has been correctly, though indefinitely, recorded. The specimen is of interest owing to the exceptional perfection with which the complicated sutures are shown. As some time had already been spent upon the specimen and we devoted further study to it after our return from Lake Eyre, when our attention had been directed to the Cretaceous fauna of that area, we now describe it.

We are much indebted to the Trustees of the Bourke Museum for their long loan of the specimen, and to Mr. Grayson for the skill with which he cleaned the suture lines.

DESCRIPTION OF THE SPECIMEN.

Desmoceras, Zittel.***Desmoceras jonesi*, n. sp.**

Diagnosis.—A large and discoid *Desmoceras*, with flat sides; young whorls marked by broad, rounded, well developed ribs. Back narrow, bluntly rounded. Umbilicus broad, the steps over the successive whorls are steep; about $\frac{2}{5}$ th of each whorl is exposed below the next outer whorl. Mouth long, with the sides in part subparallel.

Sutures: on the outer whorl there are four paired lateral saddles. The siphonal saddle is short and broad, it has one projection on each side; and it appears bicornate owing to a lateral projection at the upper corners. The first lateral saddle is very large and complex. It consists of four main divisions, of which the two middle ones are the largest and most complex; they both arise as branches from a narrow stem. The base of this saddle is large, it gives off the first branch on the dorsal side. This branch is simple but deeply notched. The second branch is on the ventral side, and is divided nearly to the base by a notch which divides it into a simple and a compound sub-branch. The last division begins with a narrow stem, and this dichotomizes to irregular and very sinuous sub-branches. The second lateral saddle is much smaller; it has two main simple branches on the ventral side and a compound division on the dorsal side. The third lateral saddle is slightly smaller than the second; it is divided into two divisions. The fourth lateral saddle is small and consists of three simple divisions.¹

The notches on the lobes are comparatively broad and have blunt rounded ends.

DIMENSIONS.

Largest diameter of specimen	-	25 cm.
Proportion (whole diam. = 1.)		
Outer whorl : whole diam.	-	= .48
Width of umbilicus : whole diam.	=	.28

¹ The saddles within the line of involution are not shown in the specimen.

Affinities.—This specimen is most nearly related to the Ammonite from the cretaceous of Southern India, described as *A. beudanti*,¹ and to the *A. flindersi*, McCoy,² from Queensland.

It differs from both those Ammonites as in it

1. The form is more laterally compressed.
2. The mouth is higher and narrower.
3. The notches in the lobes are not so sharp and are less numerous.

The full descriptions by Mr. Etheridge, jun.,³ of *Haploceras daintreei*, Eth.,⁴ suggest that it may be even nearer to the new species. The new species, however, has a greater complexity of sutures, and the saddles are wider proportionally to the lobes, than is the case in *H. daintreei*. *H. daintreei* moreover is thicker and broader, with a shorter aperture and deeper umbilicus.⁵ Our *Desmoceras* is allied to the above two species, but its generic position is with *Desmoceras* rather than *Haploceras* with which the two well known Queensland forms have been placed.

Von Zittel's description of his genus *Haploceras*, states⁶ it differs from *Desmoceras* by the first lateral saddle projecting extensively beyond the line of the rest of the saddles. In this character our species is a typical *Desmoceras*. Probably some of its nearest Queensland allies, as the species *flindersi* and *daintreei*, belong to the same genus.

We propose to name the new species *jonesi*, after Mr. J. W. Jones, the Conservator of Water in South Australia, whose work has thrown so much light on the water distribution in the Cretaceous rocks of Central Australia.

¹ Stoliczka, F.: Cretaceous Cephalopods of S. India, Pal. Indica, vol. i., p. 143, pl. lxiii. figs. 1—4, and pl. lxii.

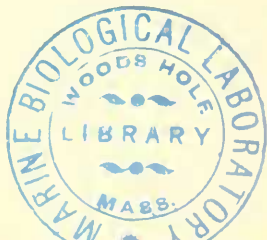
² McCoy, F.: Trans. Roy. Soc. Vic. 1866, vii., p. 51. *Ibid.*, 1868, viii., pt. i., p. 42. See also Etheridge, R., junr.: Additional Notes on the Palaeontology of Queensland. Bull: No. 13, Geol. Surv. Queensland, pt. ii., 1901, p. 31.

³ R. Etheridge, Jr. *Op. cit.*, pp. 30-31.

⁴ R. Etheridge, Senr.: Description of the Palaeozoic and Mesozoic Fossils of Queensland. Quart. Journ. Geol. Soc., xxviii., 1872, p. 346, pl. xxiv.

⁵ *c.f.* Fig. R. Etheridge, Jr. *Loc. cit.*, pl. ii., fig. 6.

⁶ *e.g.* Grundzuge der Palaeontologie, 1895, p. 426.



DESCRIPTIONS OF PLATE No. XXII.

- Fig. 1. The specimen from the side, from a photograph by Mr.
H. J. Grayson. Reduced about $\frac{1}{2}$ diam.
- Fig. 2. One of the sutures. Nat. size.
-